

Response to the Non-Final Office Action of January 22, 2004

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Remarks

Introduction

The pending claims have been rejected over one or more of eighteen (18) separate patent documents. Applicant has amended claims 15, 29, 39, 40 and 43.

Applicant respectfully submits that the as-amended claims are patentable over the applied documents, and solicits the removal of the rejections and the issuance of a Notice of Allowability and Notice of Issue Fee Due. Applicant will now addresses each rejection in the order of the Office Action.

The Rejection of Paragraph 2

Per Paragraph 2 of the Office Action, the patent examiner has rejected claims 15-17, 29-30, 34, 35, 38, 39-40 and 43 as being anticipated under 35 USC §102(e) by Sollami '728. The patent examiner's basis for the rejection is the structure of the "second insert 44".

According to the specification of the Sollami '728, this second insert is brazed into the bore. Such an element is not a "retainer sleeve" (claims 15-17, 39-40 and 43) or a "retainer" (claims 29-30, 34, 35, 38) in the sense of the claims under rejection since the second insert 44 of Sollami '728 is not carried by the cutting tool. In light of this clear distinction between Sollami '728 and the claimed invention, applicant solicits the removal of this rejection of these claims.

The Rejections of Paragraphs 3 through 6

By Paragraphs 3 through 6, selected ones of the claims (i.e., claims 29-30, 38, 40, 43, and 47) have been rejected as being anticipated by the following patents: the '058 Patent to Steinke, the '867 Patent to Rodondi et al., the '572 Patent to Schuermann and the '831 Patent to Hudson. Referring to the independent claims of the above rejected claims, the as-amended claims now call for the retainer in claims 29 and 40 and 43 to be for use in conjunction with a cutting tool.

Referring to these applied patents, the '058 Patent to Steinke pertains to a cushioning handgrip, the '867 Patent to Rodondi et al. pertains to an electric sleeve terminal, the '572 Patent to Schuermann pertains to universal shotgun shell wad, and the '831 Patent to Hudson pertains to a container that appears to be a plastic bottle or the like. There is no doubt that

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from the face of these applied patents that each one of these patents does not pertain to a cutting tool, or a retainer carried by a cutting tool. Applicant has amended the claims to clearly distinguish the claims from the above four patents.

Applicant requests the removal of these rejections for the above reasons.

The Rejection of Paragraph 8

The patent examiner has rejected claims 32-33, 36-37 and 44-45 under 35 USC §103(a) as being unpatentable over the Sollami '728. Applicant reiterates the argument advanced against the rejection of Paragraph 2 in that the second insert 44 of Sollami '728 is not a "retainer" in the sense of these claims since the second insert is brazed into the bore.

Applicant solicits the removal of this rejection.

The Rejection of Paragraph 9

The patent examiner has rejected claims 36-37 and 44-45 as being unpatentable under 35 USC §103(a) over the '867 Patent to Rodondi et al. The patent to Rodondi et al., which pertains to an electrical sleeve terminal, does not address a retainer sleeve for a cutting tool as claimed in claims 36-37 and 44-45. Applicant submits that Rodondi et al. is not relevant art and respectfully requests the removal of this rejection.

The Rejection of Paragraph 10

In Paragraph 10, the patent examiner has set forth a rejection of claims 39, 40 and 47 under 35 USC §103(a) over any one of five patents; namely, the '38 Kniff patent, the '515 Oaks et al. patent, the '147 Rettkowski patent, the '073 Sullosky et al. patent, and the '153 Sollami patent. Applicant submits that not one of these patents teaches or suggests the invention as claimed in claims 39, 40 and 47 wherein there is recited, *inter alia*, the requirement that the amount of the radial projection of the protruding surface beyond the cylindrical surface of the retainer is about 15-30 percent of the thickness of the retainer. Applicant's discussion of each applied patent now follows.

Applicant submits that the extent the radial projection protrudes beyond the cylindrical surface of the retainer provides a meaningful advantage. In this regard, in contrasting the

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present dimples against retainers that have larger projections (e.g., see U.S. Patent No. 4,484,783 to Emmerich and U.S. Patent No. 3,519,309 to Engle et al.), the present patent application recognizes that the prior art tools with the larger dimples often become difficult to remove because dirt and debris penetrate the clearances between the shank, the retainer and the bit holder bore and accumulate in the shank annular groove. At page 11, lines 10-13, the present patent application reads:

“This debris and dirt interferes with the inward radial play of the radially protruding surfaces, making the tools very difficult and sometimes impossible to remove.”

In light of the larger size of the protrusions in the retainers of the ‘783 Patent and the ‘309 Patent, a significant amount of inward radial play is necessary to retract the protrusions so as to be able to remove the retainer.

If dirt and debris penetrates the volume between the retainer and the groove in the shank of the tool so the retainer is unable to contract in the radial inward direction a sufficient distance, the tools cannot be removed without shearing off the protrusions. This is contrast to the present invention that, “... includes protruding dimples that are designed to require no radial play and, therefore, do not suffer from the same drawback as the prior art.” The reason that the dimples of the present invention do not require inward radial play to be removed is because they extend a smaller distance away from the surface of the retainer.

The upshot of this discussion is that the present invention that claims the smaller protrusions or dimples exhibits a meaningful advantage over the prior art that has a retainer with the larger protrusions or dimples. As will be seen from the below discussion, to the extent that it discloses a retainer, each and every one of the applied patents discloses a retainer with larger dimples that would result in a difficult extraction of the tool should there be a build-up of dirt and debris.

The Kniff ‘838 Patent shows in FIG. 4 a retainer in which the protuberances 34 project past the surface of the retainer a distance that is greater than the thickness of the retainer body. FIG. 3 shows that the protuberances extend most of their radial extension into the corresponding groove. In order to remove the tool from the bore, the retainer of the ‘838 Patent must exhibit a meaningful amount of radial play for the protuberances to disengage the

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groove. The rejected claims call for the amount of the radial projection of the protruding surface beyond the cylindrical surface of the retainer to be about 15-30 percent of the thickness of the retainer. Such a small extent of radial projection allows the removal of the tool without the need for inward radial play of the retainer. This is a difference that patentably distinguishes the claims over the '838 Patent to Kniff.

The Oaks et al. '515 Patent discloses a keeper ring along the lines of the retainer shown in the Kniff '838 Patent. Like for the Kniff '838 Patent, each one of the protuberances 30 projects past the surface of the retainer a distance that is greater than the thickness of the retainer body. FIG. 1 shows that in order to remove the tool from the bore, the retainer must exhibit a meaningful amount of radial play for the protuberances to disengage the groove. In order to remove the tool from the bore, the retainer of the '515 Patent must exhibit a meaningful amount of radial play for the protuberances to disengage the groove. The rejected claims call for the amount of the radial projection of the protruding surface beyond the cylindrical surface of the retainer to be about 15-30 percent of the thickness of the retainer. Such a small extent of radial projection allows the removal of the tool without the need for inward radial play of the retainer. This is a difference that patentably distinguishes the claims over the '515 Patent to Oaks et al.

Like for the Oaks et al. '515 Patent and the Kniff '838 Patent, the Rettkowski '147 Patent shows a retainer that has projections that project a distance beyond the surface of the retainer that is greater than the thickness of the retainer. The projections engage a groove (see, for example, FIGS. 5 and 6) in such a way that in order to remove the tool from the bore, the retainer of the '147 Patent must exhibit a meaningful amount of inward radial play for the protuberances to disengage the groove. The rejected claims call for the amount of the radial projection of the protruding surface beyond the cylindrical surface of the retainer to be about 15-30 percent of the thickness of the retainer. Such a small extent of radial projection allows the removal of the tool without the need for inward radial play of the retainer. This is a difference that patentably distinguishes the claims over the '147 Patent.

The Sulosky et al. '073 Patent in FIG. 13 shows a retainer that has bumps; however, there is no disclosure about the dimension of the bumps in relationship to the thickness of the

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retainer. Thus, the patent examiner cannot properly use the '073 Patent as a basis for this rejection.

Like for some of the above patents, the Sollami '153 Patent shows nodules that project past the surface of the retainer a distance that is at least as great as the thickness of the retainer body. In order to remove the tool from the bore, the retainer of the '153 Patent must exhibit inward radial play for the protuberances to disengage the groove. The rejected claims call for the amount of the radial projection of the protruding surface beyond the cylindrical surface of the retainer to be about 15-30 percent of the thickness of the retainer. Such a small extent of radial projection allows the removal of the tool without the need for inward radial play of the retainer. This is a difference that patentably distinguishes the claims over the '153 Patent to Sollami.

In summary, while the patent examiner argues that the dimension of the protruding surface makes no difference, the fact of the matter is that it does make a difference as explained hereinabove. Applicant hereby respectfully requests the removal of these rejections.

The Rejection of Paragraph 11

In Paragraph 11, the patent examiner has rejected claims 15-17, 29-30, 32-40 and 43-47 as unpatentable over any one of eight applied patents. These claims recite, *inter alia*, the requirement that the amount of the radial projection of the protruding surface beyond the cylindrical surface of the retainer is about 15-30 percent of the thickness of the retainer. Applicant submits that none of these patents teaches or suggests the claimed invention since each one of these patents presents projections that project a distance from the surface of the retainer distance relative to the thickness of the retainer that is multiple times the claimed distance. Applicant submits that it is more than merely an obvious matter of design in light of the advantages of the smaller protrusions that have been discussed in connection with the rejection under Paragraph 10 of the Office Action. Each one of the eight applied patents will now be addressed below.

The Engle et al. '309 Patent discloses in FIG. 10 a retainer that clearly has protuberances that extend a distance past the surface that is greater than the thickness of the

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retainer. As shown by the cross-sectional views of FIGS. 9 and 12, in order to remove the tool from the bore, the retainer of the '309 Patent must exhibit a meaningful amount of radial play for the protuberances to disengage the groove. As pointed above hereinabove, the rejected claims call for the amount of the radial projection of the protruding surface beyond the cylindrical surface of the retainer to be about 15-30 percent of the thickness of the retainer. Such a small extent of radial projection allows the removal of the tool without the need for inward radial play of the retainer. This is a difference that patentably distinguishes the claims over the '309 Patent to Engle et al.

The thickness of the retainer in the Radd et al. '158 Patent is undeterminable for certain. Thus, the patent examiner cannot properly use the Radd et al. patent as a basis for this rejection.

The Kniff et al. '708 Patent shows in FIG. 5 a retainer has protuberances that extend a distance past the surface that is greater than the thickness of the retainer. FIG. 4 shows that in order to remove the tool from the bore, the retainer of the '708 Patent must exhibit a meaningful amount of radial play for the protuberances to disengage the groove. The rejected claims call for the amount of the radial projection of the protruding surface beyond the cylindrical surface of the retainer to be about 15-30 percent of the thickness of the retainer. Such a small extent of radial projection allows the removal of the tool without the need for inward radial play of the retainer. This is a difference that patentably distinguishes the claims over the '708 Patent.

The Emmerich '783 Patent shows a band that projects a radial distance past the surface that is greater than the thickness of the retainer. The cross-sectional views of FIGS. 5 and 6 shows that in order to remove the tool from the bore, the retainer of the '783 Patent must exhibit a meaningful amount of radial play for the protuberances to disengage the groove. The rejected claims call for the amount of the radial projection of the protruding surface beyond the cylindrical surface of the retainer to be about 15-30 percent of the thickness of the retainer. Such a small extent of radial projection allows the removal of the tool without the need for inward radial play of the retainer. This is a difference that patentably distinguishes the claims over the '783 Patent.

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It is not possible to ascertain the thickness of the retainer in the Dziak '986 Patent. Thus, the patent examiner cannot properly use the '986 Patent in a rejection of these claims.

The Beach et al. '649 Patent shows radially inwardly projecting projections, and thus, applicant submits that the '649 Patent cannot address the claims now under rejection.

The Beach '323 Patent shows a retainer 16 that is the same as the retainer of the '309 Engle et al. patent and the '515 Oaks et al. patent (see Column 5, lines 31-36). This retainer has protuberances that extend a distance past the surface that is greater than the thickness of the retainer. In order to remove the tool from the bore, the retainer of the '323 Patent must exhibit a meaningful amount of radial play for the protuberances to disengage the groove. The rejected claims call for the amount of the radial projection of the protruding surface beyond the cylindrical surface of the retainer to be about 15-30 percent of the thickness of the retainer. Such a small extent of radial projection allows the removal of the tool without the need for inward radial play of the retainer. This is a difference that patentably distinguishes the claims over the '323 Patent to Beach.

The Montgomery, Jr. '502 Patent shows a retainer that has protuberances that extend a distance past the surface that is at least as great as the thickness of the retainer. In order to remove the tool from the bore, the retainer of the '502 Patent must exhibit a meaningful amount of radial play for the protuberances to disengage the groove. The rejected claims call for the amount of the radial projection of the protruding surface beyond the cylindrical surface of the retainer to be about 15-30 percent of the thickness of the retainer. Such a small extent of radial projection allows the removal of the tool without the need for inward radial play of the retainer. This is a difference that patentably distinguishes the claims over the '502 Patent.

While the patent examiner argues that the dimension of the dimples or the protruding surface makes no difference, the fact of the matter is that it does for the reasons expressed above. Applicant thus requests the removal of the rejections of these claims.

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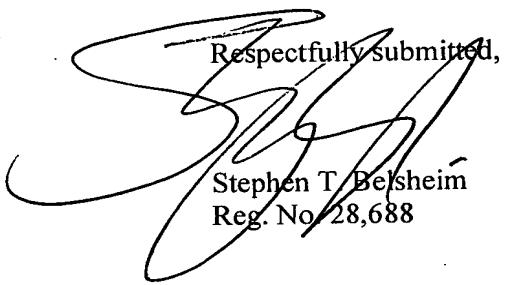
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Conclusion

Applicant respectfully submits that the as-amended pending claims define over the applied documents. Applicant solicits the issuance of a Notice of Allowability and a Notice of Allowance and Issue Fees Due.

Applicant requests if the patent examiner does not agree with the applicant's arguments, but has suggestions to place the claims in form for allowance, that the patent examiner telephone the undersigned attorney (615 662 0100) or Mr. John J. Prizzi (724-539-5331) to discuss the case.


Respectfully submitted,
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